

PREPARED FOR:



TITLE:

**CITY OF EVERETT  
2024 ROADWAY REHABILITATION & RELATED WORK**

**ATTACHMENT B**

DATE:

05-25-2021

SCALE:

N.T.S.

PREPARED BY:

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ENGINEERING**  
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**Figure**

**1.1**

## PAVEMENT NOTES

### MILLING & OVERLAYING EXIST. PAVEMENT

MILLING: 2" EXISTING PAVEMENT MILLING (TYP.) VARY MILLING DEPTH AS NEEDED TO ACHIEVE 2% CROSS SLOPE

SURFACE COURSE: 2" HOT MIX ASPHALT TOP COURSE MATERIAL, PLACED IN ONE LAYER

MILL SURFACE PREPARATION: BITUMEN FOR TACK COAT (RS-1) APPLIED AT A RATE OF 0.08 GAL./SQ. YD. OVER EXISTING MILLED SURFACE

### FULL DEPTH PAVEMENT RECLAMATION

SURFACE COURSE: 1-1/2" HOT MIX ASPHALT TOP COURSE MATERIAL, PLACED IN ONE LAYER

BINDER COURSE: 2 1/2" HOT MIX ASPHALT BINDER COURSE MATERIAL PLACED IN ONE LAYER. BITUMEN FOR TACK COAT (RS-1) APPLIED AT A RATE OF 0.07 GAL./SQ. YD. OVER BINDER SURFACE

SUBBASE: 12" RECLAIMED PAVEMENT FOR SUBBASE

### OVERLAY PAVEMENT (AS REQUESTED)

SURFACE COURSE: 1-1/2" HOT MIX ASPHALT TOP COURSE MATERIAL, PLACED IN ONE LAYER

SURFACE PREPARATION: BITUMEN FOR TACK COAT (RS-1) APPLIED AT A RATE OF 0.08 GAL./SQ. YD. OVER THE EXIST. SURFACE.

### NOTES:

- MILL & OVERLAY SURFACE COURSE AT LIMITS OF FULL DEPTH PAVEMENT SHALL BE PLACED AT A DEPTH OF 1-1/2".

### HOT MIX ASPHALT DRIVE:

SURFACE COURSE 4" HOT MIX ASPHALT PAVEMENT, PLACED IN TWO EQUAL LAYERS

BASE COURSE 8" GRAVEL BORROW - TYPE C AS DIRECTED BY THE CITY OR EXISTING BASE MATERIAL REGRADED AND COMPACTED

### CEMENT CONCRETE DRIVEWAY:

SURFACE COURSE 6" CEMENT CONCRETE PLACED IN ONE LAYER

BASE COURSE 8" GRAVEL BORROW - TYPE C AS DIRECTED BY THE CITY OR EXISTING BASE MATERIAL REGRADED AND COMPACTED

### CEMENT CONCRETE SIDEWALK / PEDESTRIAN CURB RAMP:

SURFACE COURSE 4" CEMENT CONCRETE PLACED IN ONE LAYER

BASE COURSE 8" GRAVEL BORROW - TYPE C AS DIRECTED BY THE CITY OR EXISTING BASE MATERIAL REGRADED AND COMPACTED

### LOAM & SEED:

SURFACE COURSE 4" LOAM BORROW & SEED

### BRICK WALK

SURFACE 4"x8"x2-1/2" BRICK PAVERS HAND TIGHT JOINTS - SWEEP 6:1 STONE DUST; DRY CEMENT MIX VIBRATED AND MISTED

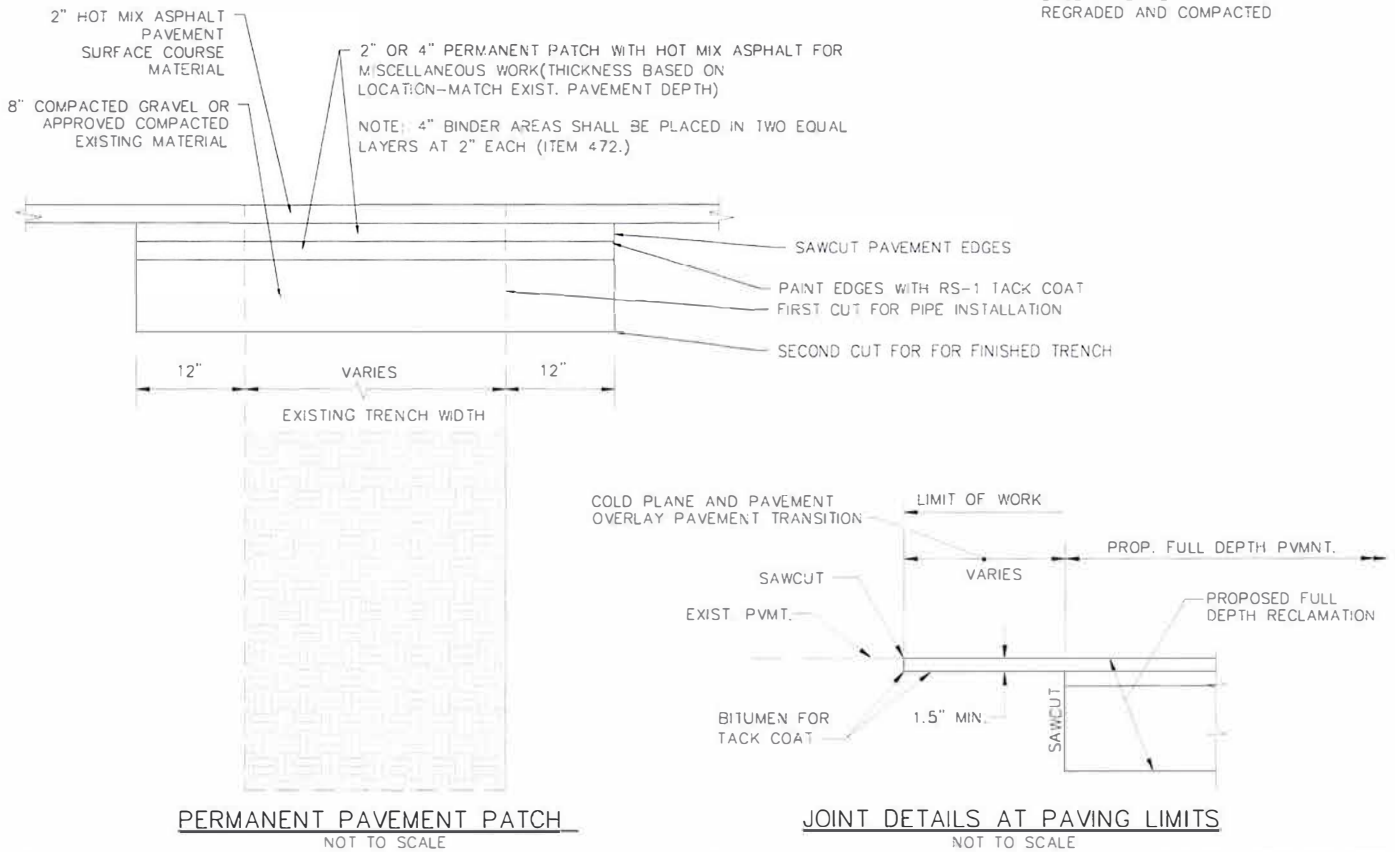
BASE COURSE 2" HOT MIX ASPHALT LEVELING BED OVER 4" CEMENT CONCRETE BASE

FOUNDATION COMPACTED GRAVEL SUBBASE

### HOT MIX ASPHALT WALK:

SURFACE COURSE 3" HOT MIX ASPHALT PAVEMENT, PLACED IN TWO EQUAL LAYERS

BASE COURSE 8" GRAVEL BORROW - TYPE C AS DIRECTED BY THE CITY OR EXISTING BASE MATERIAL REGRADED AND COMPACTED



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WORK**

**PAVEMENT NOTES & CONSTRUCTION DETAILS**

DATE:

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SCALE:

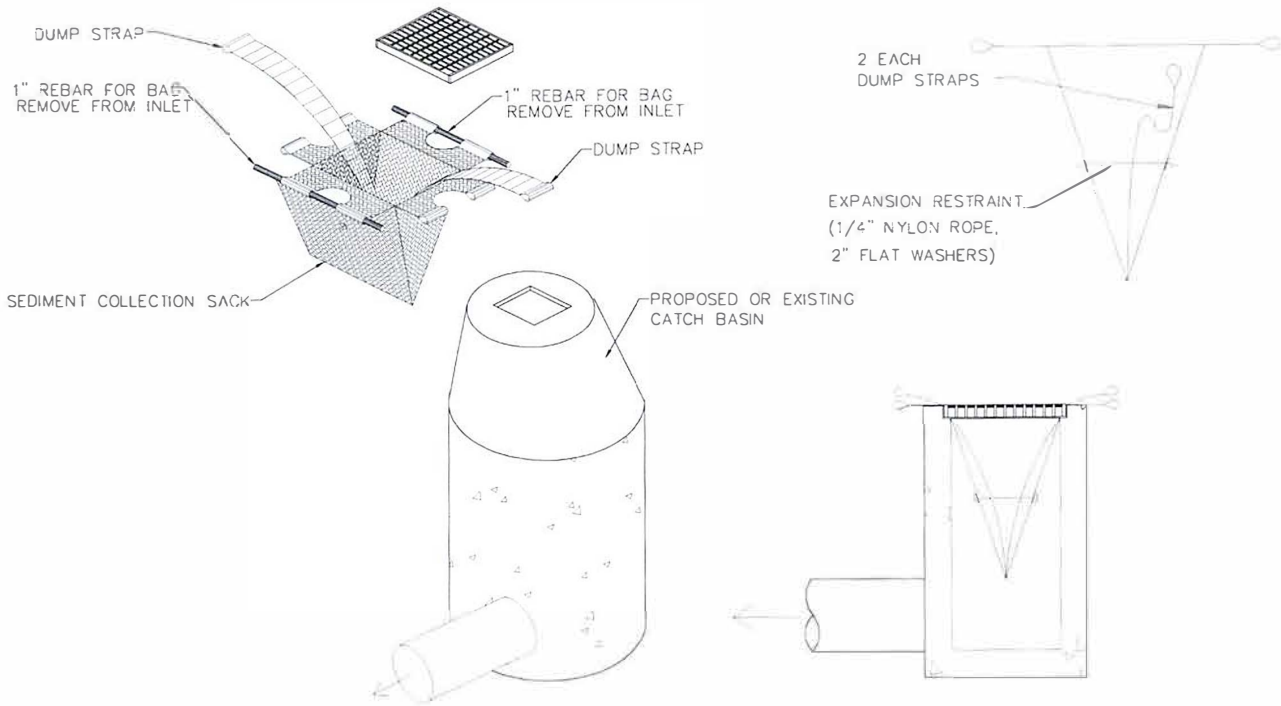
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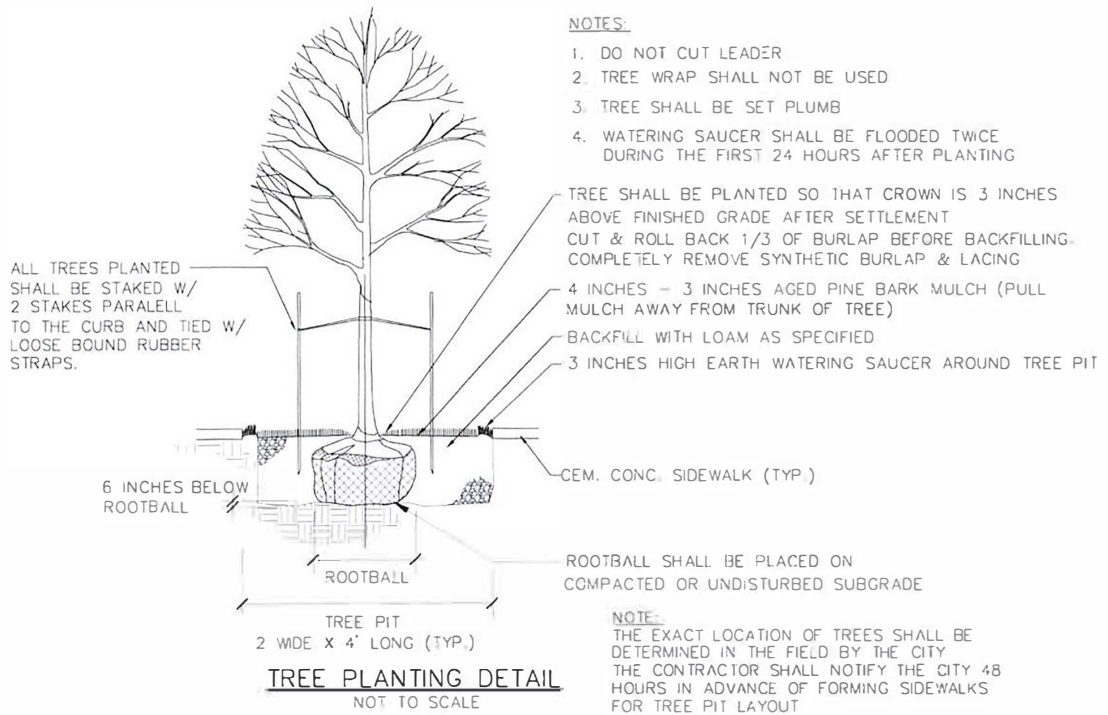
Figure

1.2



**SILT SACK DETAIL (ITEM 697.1)**

NOT TO SCALE



**NOTES:**

1. DO NOT CUT LEADER
2. TREE WRAP SHALL NOT BE USED
3. TREE SHALL BE SET PLUMB
4. WATERING SAUCER SHALL BE FLOODED TWICE DURING THE FIRST 24 HOURS AFTER PLANTING

**NOTE:**

THE EXACT LOCATION OF TREES SHALL BE DETERMINED IN THE FIELD BY THE CITY. THE CONTRACTOR SHALL NOTIFY THE CITY 48 HOURS IN ADVANCE OF FORMING SIDEWALKS FOR TREE PIT LAYOUT

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**Figure**

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ENGINEERING**

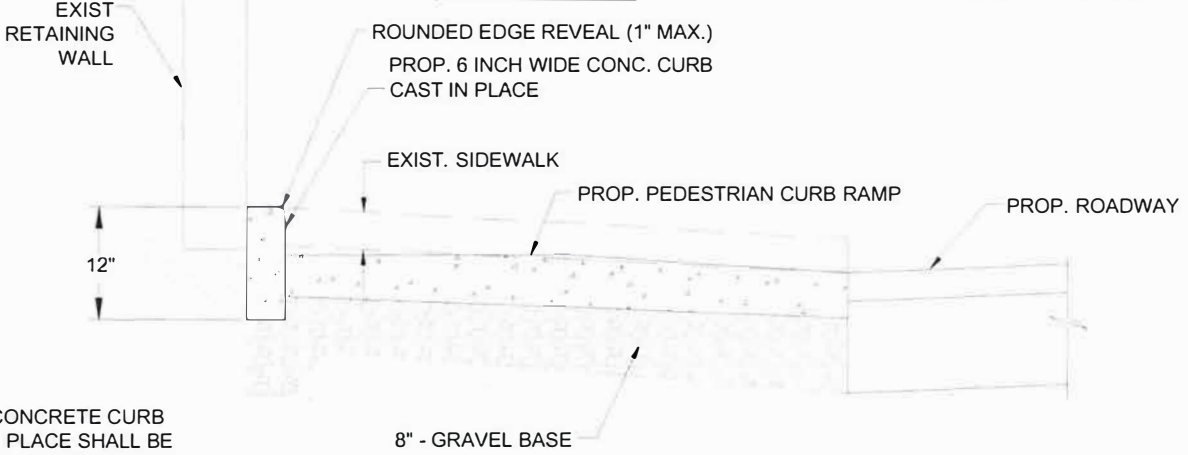
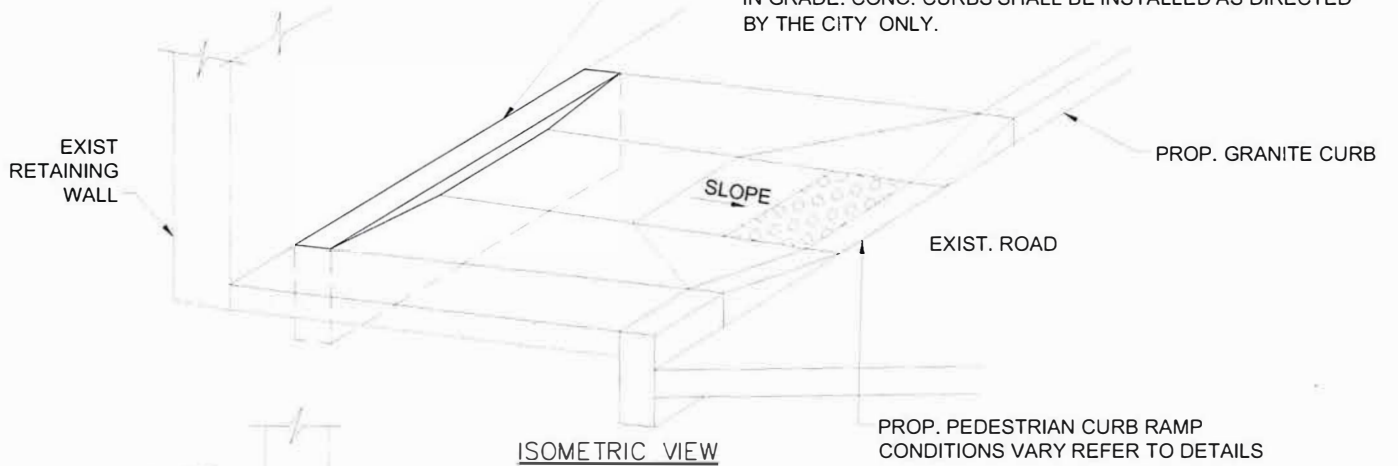
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**1.3**

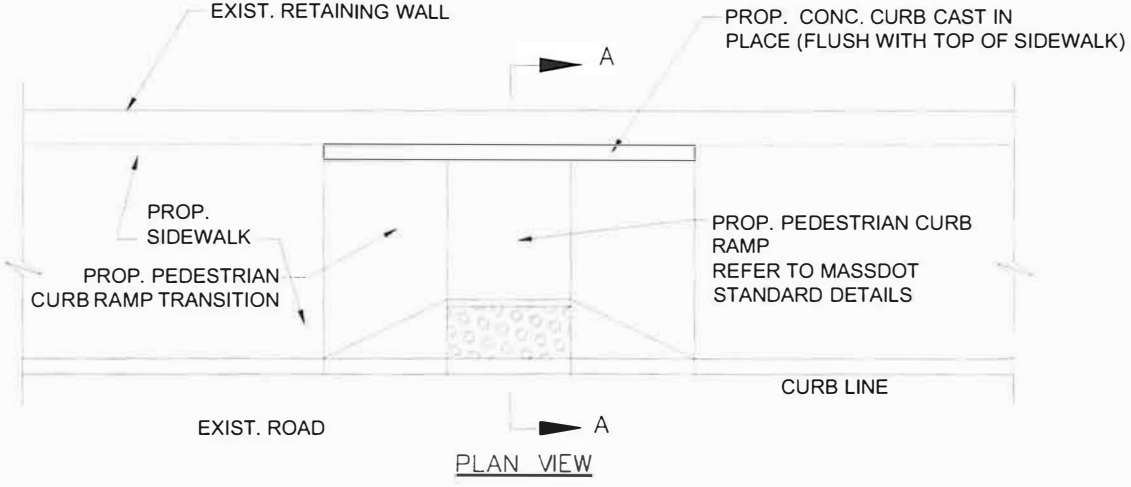
**CONSTRUCTION DETAILS**





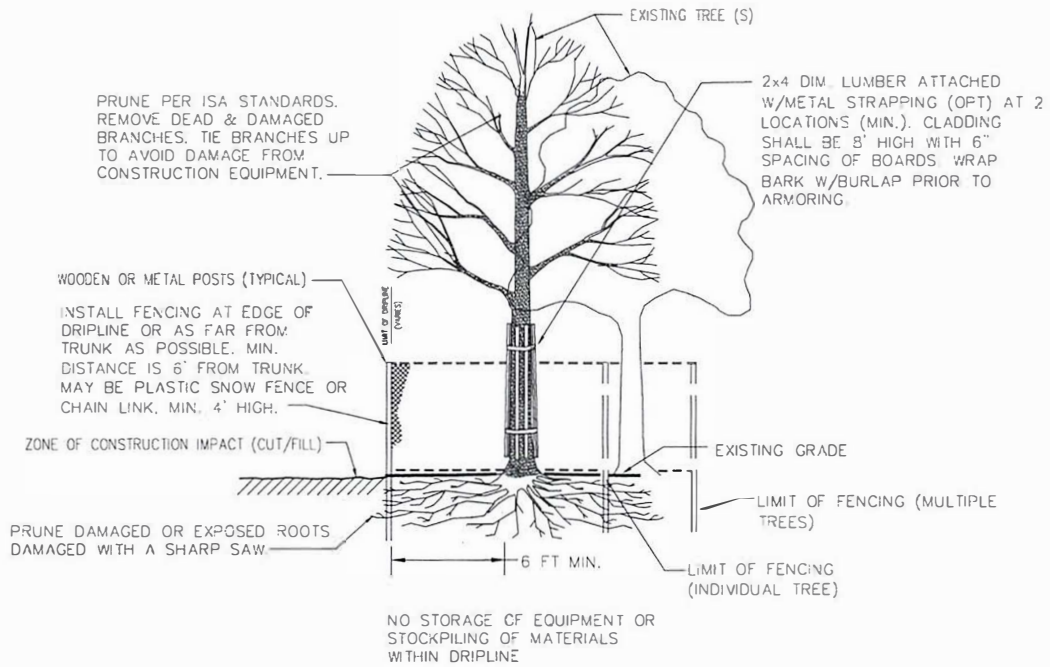
PROP. CONCRETE CURB CAST IN PLACE REFER TO SPECIFICATION ITEM 904  
 THIS ITEM SHALL BE USED AT THE BACK OF PEDESTRIAN CURB RAMP AND IN AREAS WHERE THE CHANGE IN THE BACK OF SIDEWALK GRADE CAN NOT BE MODIFIED AND A RETAINING WALL CURB OR FENCE WILL BE COMPROMISED BY THE CHANGE IN GRADE. CONC. CURBS SHALL BE INSTALLED AS DIRECTED BY THE CITY ONLY.



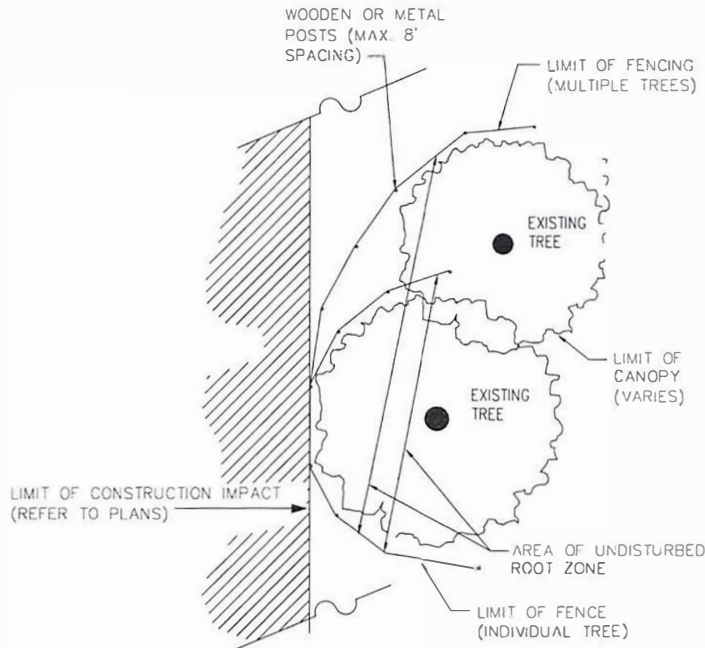
NOTE:  
 PROP. CONCRETE CURB CAST IN PLACE SHALL BE INSTALLED ON CORNERS BASED ON FIELD CONDITIONS AND LOCATION



PREPARED FOR: 	TITLE: <b>CITY OF EVERETT</b> <b>2024 ROADWAY REHABILITATION &amp; RELATED WORK</b> <b>CAST IN PLACE CONCRETE CURB</b>	DATE: 05-25-2021	SCALE: N.T.S.	<b>Figure</b>  <b>1.4</b>
		PREPARED BY: 		



**TREE PROTECTION DETAIL**  
NOT TO SCALE



**PLAN VIEW**

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TREE PROTECTION DETAILS

DATE:  
05-25-2021

SCALE:  
N.T.S.

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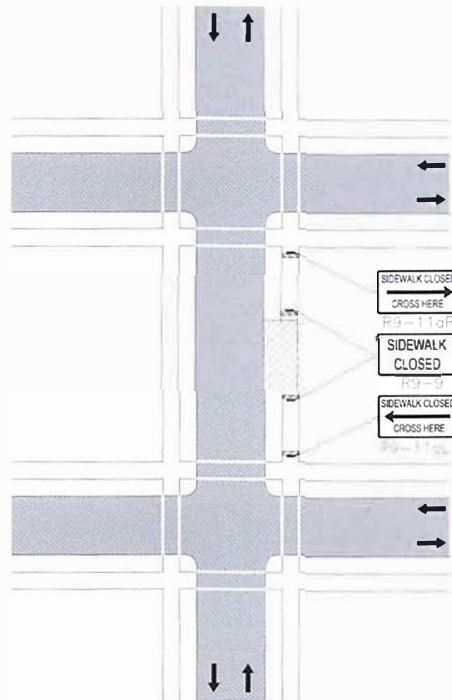
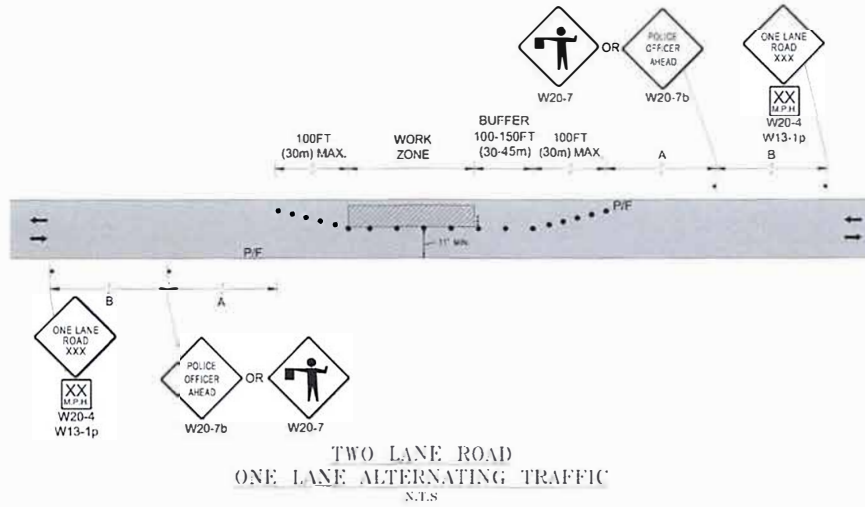
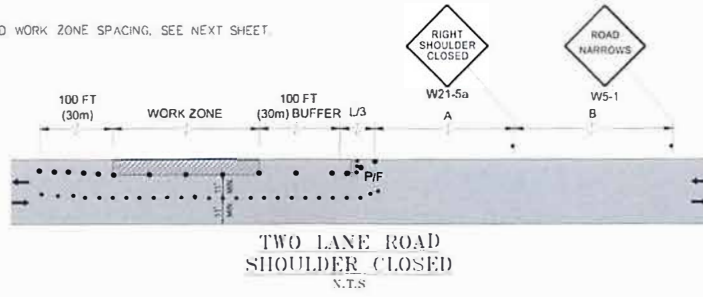
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Figure

1.5

**GENERAL NOTES**

1. FOR TRAFFIC LEGEND AND SUGGESTED WORK ZONE SPACING, SEE NEXT SHEET.



NOTE: IF A MINIMUM WIDTH OF 45" OF SOLID SMOOTH UNSTRUCTURED SURFACE REMAINS ALONG THE WORK AREA THEN THE DETAIL CAN BE DISCARDED. DELINEATION OF THE WORK AREA WILL STILL BE REQUIRED. ALL PEDESTRIAN DETOUR ROUTES SHALL BE ADA/MANE COMPLIANT IN THEIR ENTIRETY.

**SIDEWALK CLOSED WITH DETOUR**  
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**CITY OF EVERETT  
2024 ROADWAY REHABILITATION & RELATED WORK  
TRAFFIC MANAGEMENT PLANS**

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05-25-2021

SCALE:  
N.T.S.

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Figure

1.6

**LEGEND:**

- REFLECTORIZED PLASTIC DRUM OR 36" CONE
- P/F POLICE/FLASHER DETAIL
- THRU IN BARRICADE
- CHANGEBLE MESSAGE SIGN
- ARROW BOARD
- WORK ZONE
- DIRECTION OF TRAFFIC
- IMPACT ATTENUATOR
- UTILITY BARRIERS
- METAL BARRIER WITH WARNING LIGHTS
- WORK VEHICLE
- TRUCK-MOUNTED ATTENUATOR
- TRAFFIC OR PEDESTRIAN SIGNAL
- SIGN

**SUGGESTED WORK ZONE WARNING SIGN SPACING**

ROAD TYPE	DISTANCE BETWEEN SIGNS **		
	A	B	C
LOCAL OR LOW VOLUME ROADWAYS	350	500	700
MOST OTHER ROADWAYS	500	500	500
FREWAYS AND EXPRESSWAYS	1,000	1,000	2,000

\* ROAD TYPE TO BE DETERMINED BY MASSDOT OFFICE OF TRANSPORTATION PLANNING

\*\* DISTANCES ARE SHOWN IN FEET. THE COLUMN HEADINGS A, B, AND C ARE THE DIMENSIONS SHOWN IN THE DETAIL/ TYPICAL SETUP FIGURES. THE A DIMENSION IS THE DISTANCE FROM THE TRANSITION OR POINT OF RESTRICTION TO THE FIRST SIGN. THE B DIMENSION IS THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS. THE C DIMENSION IS THE DISTANCE BETWEEN THE SECOND AND THIRD SIGNS. (THE "THIRD" SIGN IS THE FIRST ONE TYPICALLY ENCOUNTERED BY A DRIVER APPROACHING A TEMPORARY TRAFFIC CONTROL (TTC) ZONE.)

THE "THIRD" SIGN ABOVE IS TYPICALLY REFERRED TO AS AN "ADVANCE WARNING" SIGN ON THE TYPICAL SETUPS. THESE ADVANCE WARNING SIGNS ARE LOCATED PRIOR TO THE PROJECT LIMITS IN ALL APPROACHES (I.E. THE W20-1 SERIES (ROAD WORK XX FT) SIGNS), AND USUALLY REMAIN FOR THE DURATION OF THE PROJECT. ADDITIONAL SIGNS (I.E. "RIGHT LANE CLOSED 1 MILE" AND "LEFT LANE CLOSED 1 MILE") HAVE BEEN SHOWN IN SOME FIGURES AS EXAMPLES OF REINFORCEMENT SIGN PLACEMENT BUT ARE USED IN RARE OCCASIONS.

THE FIRST AND SECOND WARNING SIGNS ABOVE ARE REFERRED TO AS THE OPERATIONAL (DAY-TO-DAY) WORK ZONE SIGNS AND MAY BE MOVED DEPENDANT ON WHERE THE SPECIFIC ROADWAY WORK PHASE THAT DAY IS LOCATED.

ROAD SIGNS SHALL BE PLACED BETWEEN THE SECOND AND THIRD SIGNS AS DESCRIBED ABOVE.

W20-102, W20-104, AND W20-105 SERIES SIGNS ARE TO BE INCLUDED IN ALL DETAILS/TYPICAL DETAILS.

Based on Table 6E-1 MUTCD LATEST EDITION

**TRAFFIC MANAGEMENT NOTES**

GENERAL

- ALL TRAFFIC MANAGEMENT AND WORK ZONE TRAFFIC CONTROL MEASURES SHALL CONFORM TO THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WITH ALL REVISIONS INCORPORATED, THE MASSDOT STANDARD SPECIFICATIONS, AND THE FOLLOWING NOTES.
- LANE RESTRICTIONS MAY NOT REMAIN OVERNIGHT OR DURING NON-WORKING HOURS. AFTER EACH WORKING DAY, TRAFFIC CONTROL DEVICES THAT ARE NOT REQUIRED SHALL BE MOVED OFF THE ROADWAY OR FULL DEPTH CONSTRUCTION AREA AND PLACED SO AS NOT TO IMPEDE PEDESTRIAN AREAS, ABUTTER ACCESS OR CAUSE CONFUSION TO MOTORISTS IN CERTAIN CIRCUMSTANCES, AND ONLY WITH THE APPROVAL OF THE CITY. CAN LANE RESTRICTIONS REMAIN OVERNIGHT, IN WHICH CASE ALL REFLECTORIZED DRUMS SHALL BE FITTED WITH STEADY BURN AND/OR FLASHING WARNING LIGHTS AS DIRECTED BY THE CITY.
- CONTRACTOR SHALL PROVIDE A SAFE TEMPORARY PEDESTRIAN ACCESS WHERE EXISTING SIDEWALKS OR OTHER PEDESTRIAN AREAS ARE AFFECTED BY CONSTRUCTION WORK. MAINTAIN ABUTTER ACCESS AT ALL TIMES EXCEPT FOR SHORT PERIODS APPROVED BY THE CITY.
- PLACE ALL CONSTRUCTION SIGNING, TRAFFIC CONTROL DEVICES AND TEMPORARY PAVEMENT MARKINGS FOR EACH PHASE PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- ONE (1) THRU TRAVEL LANE HAVING A MINIMUM WIDTH OF 11'-0" SHALL BE PROVIDED FOR BOTH DIRECTIONS (LANE TO BE SHARED AND DIRECTION OF TRAVEL TO ALTERNATE IN SOME SITUATIONS UNDER POLICE OFFICER CONTROL) DURING ALL PHASES OF CONSTRUCTION AS SHOWN ON THE TRAFFIC MANAGEMENT PLANS, UNLESS OTHERWISE DIRECTED BY THE CITY.
- WHEN WORK INFRINGES UPON THE TRAVELED WAY, WORK SHALL BE RESTRICTED TO OFF-PEAK HOURS ONLY (9:00am TO 3:30pm, MONDAY TO FRIDAY).
- TAPER LENGTH FORMULAE FOR CHANNELIZATION DEVICES:  
 $L = S \times W$  FOR SPEED EQUAL TO OR GREATER THAN 45 MPH  
 $L = WS^2/60$  FOR SPEED EQUAL TO OR LESS THAN 40 MPH, WHERE:  
 $L =$  MIN. LENGTH OF TAPER,  $S =$  POSTED SPEED,  $W =$  OFFSET WIDTH.
- PEDESTRIANS SHOULD BE PROVIDED WITH A SAFE CONVENIENT TRAVEL PATH THAT REPLICATES AS NEARLY AS POSSIBLE THE MOST DESIRABLE CHARACTERISTICS OF SIDEWALKS OR FOOTPATHS.
- IF EXISTING INTERSECTION IS SIGNALIZED, IT SHOULD BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE SIGNALS FUNCTIONING PROPERLY WHILE CONSTRUCTION IS IN PROGRESS OR UNTIL NEW SIGNALIZATION IS OPERATIONAL. THIS IS MOST CRITICAL IF THE CLOSURE IS TO REMAIN IN EFFECT AT THE END OF THE WORK DAY.
- DISTANCES SHOWN ON THE TRAFFIC MANAGEMENT PLANS ARE A GUIDE ONLY, AND MAY BE ADJUSTED IN THE FIELD BY THE CITY.

GRADE DIFFERENCES

- WHERE THERE IS A LONGITUDINAL DIFFERENCE IN ELEVATION BETWEEN EXISTING PAVEMENT AND COLD PLANED OR NEW PAVEMENT, THE CONTRACTOR SHALL PATCH A TEMPORARY BIT. CONC. WEDGE WITH A 12:1 (OR FLATTER) SLOPE FOR SMOOTH TRANSITION.
- CROSS-SECTIONAL GRADE DIFFERENCES IN EXCESS OF 2" DURING NON-WORKING HOURS WILL REQUIRE DELINEATION BY USE OF REFLECTORIZED DRUMS.
- CROSS-SECTIONAL GRADE DIFFERENCES IN EXCESS OF 4" DURING NON-WORKING HOURS SHALL BE PROTECTED BY BACKFILLING WITH A WEDGE OF EARTHWORK TO BE COMPACTED AT 4:1 SLOPE AND WILL ALSO REQUIRE DELINEATION BY USE OF DRUMS.
- A MINIMUM SLOPE OF 4:1 MUST BE MAINTAINED AFTER WORKING HOURS DURING SUBBASE AND BASE COURSE INSTALLATION ALONG EDGE OF THE TRAVELWAY. A MINIMUM SLOPE OF 8:1 MUST BE MAINTAINED ON ALL ABUTTER ACCESS DRIVES AND A MINIMUM SLOPE OF 12:1 MUST BE MAINTAINED ON ALL SIDEWALKS.

CONSTRUCTION SIGNING

- REMOVE ALL TEMPORARY SIGNS, DRUMS AND OTHER TRAFFIC MAINTENANCE DEVICES THAT ARE NOT COMPLETED IN A DAYS WORK. THIS PARTICULARLY APPLIES TO THE W20-8 SIGNS, WHICH SHALL BE COMPLETELY COVERED OR REMOVED EACH DAY WHEN TRAFFIC OFFICERS ARE NOT PRESENT.
- NO SIGNS SHALL BE ATTACHED TO DRUMS OR CONES. ALL CONSTRUCTION SIGNS SHALL BE ATTACHED TO THEIR OWN INDEPENDENT SUPPORTS.
- NO SIGNS SHALL BE VISIBLE TO TRAFFIC THAT MAY CONFLICT WITH ACTUAL CONDITIONS.
- LOCATION OF R5-9A SIGNS TO BE APPROVED BY THE CITY WHO WILL DETERMINE THE NECESSITY FOR PROVIDING TEMPORARY CROSSWALKS.
- ALL SIGNS AND SUPPORTS SHALL MEET CRITERIA SET FORTH IN NCHRP 350 REPORT.
- ALL SIGNS, INCLUDING EXISTING, THAT ARE NOT REPRESENTATIVE OF ACTUAL WORK CONDITIONS SHALL BE EITHER COVERED OR REMOVED WHEN NOT APPLICABLE.
- IF USED, ALL W20-4 SIGNS SHALL BE TAKEN DOWN OR COVERED AT THE CLOSE OF EACH DAY UNLESS LANE RESTRICTIONS ARE PERMITTED TO REMAIN OVERNIGHT IN ACCORDANCE WITH NOTE NO. 2 ABOVE.
- USE W20-8 SIGNS ONLY WHILE POLICE ARE DIRECTING TRAFFIC. THEY SHALL BE TAKEN DOWN OR COVERED AT THE CLOSE OF EACH DAY.

PAVEMENT MARKINGS

- PAVEMENT MARKINGS WHICH ARE NO LONGER APPLICABLE SHALL BE REMOVED. APPLY TEMPORARY MARKINGS WHERE SHOWN ON THE TRAFFIC MANAGEMENT PLANS AND AS NECESSARY.
- FOR ROADWAYS WHERE PAVEMENT OVERLAY IS NOT DESIGNATED, EXISTING PAVEMENT MARKINGS WHICH ARE IN CONFLICT WITH TEMPORARY TRAFFIC CONTROLS SHOULD BE COVERED TEMPORARILY WITH BLACKOUT PAINT OR TAPE, AS DIRECTED BY THE CITY, FOR THE FULL DURATION OF THE PHASE IN PROGRESS. TEMPORARY PAINTED OR REMOVABLE TAPE MARKINGS SHALL BE USED AS NECESSARY FOR ALL PHASES OF CONSTRUCTION.

CHANNELIZATION

- THE MAXIMUM SPACING BETWEEN CHANNELIZATION DEVICES (DRUMS OR CONES) SHALL BE APPROXIMATELY EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MINIMUM SPACING SHALL BE 20' O.C.
- REFLECTORIZED DRUMS USED TO MARK HAZARDS OVERNIGHT SHALL BE EQUIPPED WITH FLASHING WARNING LIGHTS. DRUMS USED FOR CHANNELIZATION OVERNIGHT SHALL BE EQUIPPED WITH STEADY-BURN LAMPS. NO REFLECTORIZED CONES SHALL BE USED.
- FLASHING OR STEADY BURN WARNING LIGHTS SHALL ALSO BE USED ON BARRICADES, JERSEY BARRIERS OR WHERE DIRECTED BY THE ENGINEER.
- METAL DRUMS ARE PROHIBITED AS CHANNELIZATION DEVICES.
- PLASTIC DRUMS WITH SOME FORM OF LIGHTING DEVICE MOUNTED ON THEM MUST PASS THE CRITERIA SET FORTH IN NCHRP 350 "RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES" IF THEY DO NOT MEET THIS CRITERIA, THEY MUST BE REMOVED FROM THE PROJECT.

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**TRAFFIC MANAGEMENT NOTES**

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**Figure**

**1.7**